



GARY R. HERBERT  
Governor

SPENCER J. COX  
Lieutenant Governor

# State of Utah

## DEPARTMENT OF NATURAL RESOURCES

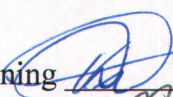
MICHAEL R. STYLER  
Executive Director

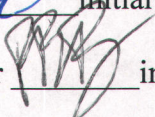
### Division of Oil, Gas and Mining

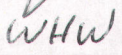
JOHN R. BAZA  
Division Director

March 25, 2014

TO: Minerals Regulatory Program

THRU: Dana Dean, Associate Director – Mining  initial

THRU: Paul B. Baker – Mining Program Coordinator  initial

FROM: Wayne H. Western – Environmental Scientist III  initial

SUBJECT: 2014 Reclamation Surety Costs for Small Mining Operations and Exploration Including Small Mine Three and Five Year Escalation

Rules R647-2-111.3.11 and R647-111.3-3.13 requires the Minerals Regulatory Program to calculate reclamation cost estimates based on the average dollars per acre costs for reclamation of similar operations, as determined by the Division, based upon approved surety amounts for current large mining operations. These average costs must be approved by the Board of Oil, Gas and Mining. This memorandum details the amounts recommended to the Board for the average costs to be used for small mines and exploration projects.

The average costs are determined for exploration sites and small mines. Small mine sites are areas with no greater than 10 acres of disturbance. For the basic costs, the Division assumes there are no structures or underground openings, and that earthwork and revegetation will be required and will be done at approximately the same time.

If a site has structures, including vent shafts or portals, the cost of structure removal will be calculated as a line item. Sites with unusual features, such as underground openings or large diameter/deep drill holes are calculated based on information from drilling contractors and vendors. The Division considers drill holes larger than seven inches diameter or greater than 1600 feet exploration holes as unusual.

For mine sites with five or fewer acres, the Division assumes that all reclamation work can be accomplished with an excavator and a pickup truck for support. For sites larger than five acres but no greater than ten acres, the Division assumes that reclamation will require an excavator and a bulldozer with a pickup truck for support.

For sites that have received partial bond release for earthwork the assumption will be that some type of earthwork (scarifying or pocking) will need to be done prior to seeding. Therefore additional bond will be required.





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The reclamation bond costs are escalated three or five years into the future for small mines using a five-year average of the Average Means Historical Cost Index for Site Construction, National Average. Costs for exploration projects are escalated a year into the future then re-evaluated if an operator requests an extension for the project.

Until 2013, the Minerals Program used actual costs for reclaiming several large mines, but this procedure resulted in difficulties. Most large mines have facilities, such as processing plants and leach pads that are not present at most small mines and exploration projects. It is difficult to remove these costs and standardize escalation years to make a meaningful calculation. In addition, the Division found it was difficult not to introduce bias into the process of selecting the mines that would be used to calculate the per-acre costs.

In the past the Division assumed a 150-mile mobilization/demobilization cost. In 2014 the Division will allow the mob/demob cost to be decrease to a minimum of 50 miles (if there are at least three contractors that could conduct reclamation that are based within 50 miles of the site). The mob/demob costs should be increased as shown in the tables if the haul distance is greater than 50 miles.

The reasons for significant changes are:

- The vegetation costs were reduced from \$1,000 per acre to \$500 per acre, because the prep work would be done as part of earthwork and not as a separate line item. A reduction of \$5,000.
- The exploration work is reduced because of equipment changes. The Division will use an excavator instead of a bulldozer.
- A reduction in the mob/demob cost. The Division is going from 150 mile one way hauls to 50 mile one way hauls as the base. Addition charges added as the miles increase.



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**Exploration Notices**

<b>Project Size (Acres)</b>	<b>Surety (\$ Amount-2014)</b>	<b>Comments</b>
	<b>1 year escalation through November 30, 2015</b>	
1 or fewer acres	\$7,700.00	Minimum surety required \$7,700.00 (includes \$2,900.00 mob/demob charge)
Additional mod/demob costs	Mob up to 50 miles one way - no additional charge Mob 51 to 100 miles one way - add \$1,300.00 Mob 101 – 150 miles one way - add \$2,400.00 Mob 151 – 200 miles one way - add \$3,700.00	
Each additional acre	\$4,800 per acre (No restriction on acreage)	Partial acreages are rounded up to next highest # (no maximum \$ amount)
Drilling (dry)	\$1,000 mob/demob plus \$210.00/hole	In addition to above costs
Drilling (wet) up to 7" diameter	<ul style="list-style-type: none"> <li>• \$7,000 mobilization charge for holes 800 feet or less plus \$4.25/foot plus \$210 for cap.</li> <li>• \$10,000 mobilization charge for hole between 801 and 1,600 feet plus \$4.81/foot plus \$210 for cap.</li> <li>• \$16,000 mobilization for holes greater than 1,600 feet and \$5.44/foot plus \$210 for cap.</li> </ul>	In addition to above costs
Wells greater than 7" diameter	The Division can request a third party estimate	
Wells deeper than 1,600 feet	The Division can request a third party estimate	
Portal	\$2,000 each opening	
Shafts	\$3,000 each opening	



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**Small Mining Operation Five or Fewer Acres Using an Excavator**

<b>Project Size (Acres)</b>	<b>Surety 3 &amp; 5 year escalation 2014</b>	<b>Comments</b>
	<b>3 year escalation through March 31, 2017 5 year escalation through March 31, 2019</b>	
1 or fewer acres	3 year escalation \$8,000.00  5 year escalation \$8,300.00	Minimum amount required 3 year escalation \$8,000.00 which includes \$3,000.00 mob/demob  5 year escalation \$8,300.00 which includes \$3,100.00 mob/demob
Additional mod/demob costs	3 year escalation Mob up to 50 miles one way no additional charge Mob 51 to 100 miles one way add \$1,400.00 Mob 101 – 150 miles one way add \$2,500.00 Mob 151 – 200 miles one way add \$3,900.00  5 year escalation Mob up to 50 miles one way no additional charge Mob 51 to 100 miles one way add \$1,400.00 Mob 101 – 150 miles one way add \$2,600.00 Mob 151 – 200 miles one way add \$4,100.00	
Additional acres up to 5 total acres	\$5,000.00/ acre (3-year escalation) \$5,200.00/acre (5-year escalation)	Partial acreages rounded up (e.g., 1.2 acres = 2 acres)
Cumulative Amount for 5 acres	\$28,000.00 (3-year escalation) \$29,100.00(5-year escalation)	\$1,100.00 difference between 3 and 5 year escalation amount for 5-acres of disturbance.
Portal	\$2,000 each opening	
Shafts	\$3,000 each opening	



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**Small Mining Operation Over Five to Ten Acres Using an Excavator then Dozer**

<b>Project Size (Acres)</b>	<b>Surety 3 &amp; 5 year escalation 2014</b>	<b>Comments</b>
	<b>3 year escalation through March 31, 2017 5 year escalation through March 31, 2019</b>	
6 acres	(3-year escalation) \$36,500.00  5 year escalation (includes \$37,900.00	Minimum amount required (3-year escalation) \$36,500.00 3 year mod/demob \$6,400.00  5 year escalation \$37,900.00 5 year mod/demob \$7,700.00
Additional mod/demob costs	3 year escalation Mob up to 50 miles one way no additional charge Mob 51 to 100 miles one way add \$2,900.00 Mob 101 – 150 miles one way add \$5,500.00 Mob 151 – 200 miles one way add \$8,100.00  5 year escalation Mob up to 50 miles one way no additional charge Mob 51 to 100 miles one way \$2,900.00 Mob 101 – 150 miles one way add \$5,700.00 Mob 151 – 200 miles one way add \$8,400.00	
Additional acres up to 10 total acres	\$5,100/ acre (3-year escalation) \$5,200/acre (5-year escalation)	Partial acreages rounded up (e.g., 5.2 acres = 6 acres)
Cumulative Amount for 10 acres	3-year escalation \$56,900.00 5-year escalation \$58,700.00	\$1,800 difference between 3 and 5 year escalation amount for 10-acres of disturbance.
Portal	\$2,000 each opening	
Shafts	\$3,000 each opening	

Reasons for the significant changes are:

- The vegetation costs were reduced from \$1,000 per acre to \$500 per acre, because the prep work would be done as part of earthwork and not as a separate line item. A reduction of \$5,000.
- The exploration work is reduced because of equipment changes. The Division will use an excavator instead of a bulldozer.
- A reduction in the mob/demob cost. The Division is going from 150 mile one way hauls to 50 mile one way hauls as the base. Addition charges added as the miles increase.